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ABSTRACT

This paper reports on a study to document influences on five beginning mathematics and science teachers' instructional beliefs after a preservice methods course in secondary literacy. The participants were former military officers who had selected teaching as a second career. The study looked at: the teachers' beliefs about uses of literacy in their content instruction from preservice through the second teaching year; influences the teachers perceived as affecting their beliefs; and how and why the teachers' beliefs about literacy in their content instruction changed or remained constant over the 3-year period. Results showed: all five teachers' beliefs had been influenced by the methods course; the teachers' instructional beliefs became more elaborate and specific during their student teaching and first year of teaching; as student teachers, they were influenced by cooperating teachers' beliefs about what "worked" and what "didn't work," beliefs they often adopted unaware of inconsistencies with what they had been taught; all five had concerns about students' behavioral problems; they had to adjust to quick and substantial changes in environment, expectations, and curriculum; and they were influenced by a wide variety of individuals and conditions within and outside of the school. Positive conditions included appropriate curriculum materials, cooperating teachers who favored the strategies, and favorable administrative policies. Negative conditions included lack of time, large numbers of students and/or preparations required, students with many academic or personal problems, and general instability of the beginning teacher's assignments. (Contains 13 references.) (ND)

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Influences on beginning teachers' literacy-related instructional beliefs: A longitudinal case-study comparison of five non-traditional math and science teachers

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Summary Report

In efforts toward school reform, teachers are critical. Policies, textbooks, and published curriculum can change; however, if teachers do not support these changes, it seems likely that classroom instruction will change very little. In the past decade, researchers have begun to take a closer look at teachers' instructional belief systems. Some have argued that while we currently know little about how teachers' beliefs develop and change over time, this area of research may prove to be the most crucial for understanding instruction (e.g. Kagan, 1992).

In the area of literacy, researchers are becoming increasingly interested in documenting the instructional beliefs and actual classroom practices of secondary content area teachers. Since the 1920's, literacy educators have recommended a wide variety of literacy-related instructional strategies for secondary instruction; however, an extensive body of research suggests that many of these suggested practices are rarely implemented (O'Brien, Stewart & Moje, 1995). Attention is now turning to reasons why this may be so, with the instructional beliefs of teachers an important research focus. Studies in literacy and other areas suggest that teachers' beliefs begin to form early in life, when they are students, and that the beliefs of preservice teachers may already be firmly entrenched (Sturtevant, In Press). Various forms of teacher education, especially those which enable students to construct knowledge and beliefs through an interaction of hands-on experience, study, and reflection seem effective in helping preservice teachers expand and modify former beliefs (Sampson & Linek, 1994). However, as pre-service teachers move beyond the university into their student teaching and first teaching years, their instructional beliefs may be influenced from a variety of directions. These induction years may, therefore, be a crucial time period in teachers' instructional belief development.

The present study was designed to document influences that affected five mathematics and science teachers' instructional beliefs as they left a preservice methods course in secondary literacy and entered the first years of their teaching careers. The participants in this study were men in their 40's , part of a growing group of career-changers who select teaching as a second career. All were former military officers who took licensure coursework through a small university in northern Virginia that offered a program at a military installation near the Pentagon.

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Just prior to entering student teaching, the participants were all enrolled in a secondary literacy methods course that was taught by the researcher. This course, required for secondary majors in every discipline, was an introduction to the rationale and methods for infusing reading, writing, and discussion into all content area instruction. In addition to introducing content literacy methods, the course included an emphasis on school culture and other influences which have historically affected teachers' uses of literacy in secondary classrooms (Cuban, 1986; O'Brien, 1988). The students, most of whom were accustomed to highly traditional, lecture-style instruction in their own schooling and in their military careers, were immersed in a variety of activities designed to help them experience and reflect on theory-based practices that emphasize varied and authentic uses of literacy.

This study began during the course and has continued since. At the end of the course, students completed anonymous exit questionnaires. Most students in the class (92%) indicated that the course had substantially influenced their beliefs about using literacy-related activities in their content teaching and identified specific literacy strategies they intended to use during their student teaching experiences. Of these, five who would be student teaching in mathematics or a combination of mathematics and science were invited to participate in the follow-up study (see related report, Sturtevant, 1995).

The five participants were followed into their student teaching and, where possible, into their first two years as beginning teachers. Of the five original participants, three are currently (Spring 1996) in their second year as teachers in schools in northern Virginia. A fourth participant is in his first year of full-time teaching in Dayton, Ohio, having spent the year after student teaching substituting and seeking a position. The fifth participant obtained a first year position (Fall 1994) in a district near Pittsburg, but left his job in December of the first year. Current plans are to continue the study with the four remaining participants through the end of their third year of teaching.

The specific research questions which guide the study are:

1. What beliefs about uses of literacy in their content instruction have the teachers exhibited in words and actions from pre-service through the second teaching year?
2. What influences, past or present, do the teachers perceive as affecting their beliefs about uses of literacy in their content instruction during this time period?
3. How and why have the teachers' beliefs about literacy in their content instruction changed or remained constant over this three-year period?

For the purposes of this study, "beliefs" and "influences" are both thought of broadly. "Beliefs" are seen as including ideas, concepts and knowledge (e.g. Sturtevant, In Press); "influences" include any institutional, sociocultural, personal, or other factor, past or present, which may affect the teacher's current behavior or decisions. "Literacy" is also thought of broadly, to include any reading, writing, or text-related discussion (e.g. Dillon, O'Brien, Moje, & Stewart, 1994).

Methodology/Data Sources

The study was developed within a social constructivist framework (Berger & Luckmann, 1967) with the purpose of understanding events, beliefs, and ideas from the perspective of the participants. Therefore, qualitative techniques and case study methodology were utilized (Merriam, 1988). Data include open-ended questionnaires (at the end of the preservice course); 45-60 minute reflective, open-ended interviews with each teacher at least twice during every year (beginning and end of student teaching; beginning and end of first teaching year, and so forth); observational notes taken while observing each teacher's classes (at the time of the interviews); classroom documents, such as handouts, tests, sample textbook pages; and teacher's journal entries. Data were transcribed, computer-sorted, and analyzed using the constant comparative method (Glaser & Strauss, 1967; Merriam, 1988). Categories which emerged were refined until all data was categorized. Each teacher was described as a single case, and a cross case analysis was made.

Data for each teacher were first analyzed in an individual case study; a cross-case analysis was then conducted by identifying themes through reading and re-reading of the data by the principal researcher and a trained graduate assistant. Themes which emerged allowed a comparison across the cases and summarization of ways in which the teachers were affected similarly and differently.

Results Overview

The following generalizations were supported by the data:

1. All 5 teachers stated that their beliefs had been influenced by the secondary literacy methods course and demonstrated an understanding and acceptance of the principles taught on the course exit questionnaire (the questionnaire was not a requirement of the course). All also identified specific types of literacy strategies they hoped to use in student teaching.

2. As the teachers went into student teaching and first year teaching, they were required to make specific instructional decisions about specific groups of students; during this process, their instructional beliefs became more elaborate and more specific. For example, during the interviews, the teachers began to explain in what situations they believed it was good to use a particular strategy and why.

3. As student teachers, they were influenced by cooperating teachers' beliefs about what "worked" and what "didn't work" for particular groups of students. This advice sometimes was consistent, and sometimes was inconsistent, with the philosophy taught in the secondary literacy course. For example, two cooperating teachers had been inspired to use various literacy-related strategies during their attendance at NCTM workshops. However, both believed that these strategies were not workable or were inappropriate for students who did not read well or who were ESL students. The student teachers adopted most of these beliefs and often were not aware of any inconsistencies with what they had previously been taught.

4. The participants were very concerned about the behavior of students during both student teaching and the first two years; all five said that concern about behavioral problems often influenced the type of teaching strategy they used. During the first year, two of the three (only three taught all year) used more "traditional" strategies than they had during student teaching and stated this was necessary because of students' behavior. For example, one teacher who tried cooperative grouping during student teaching never used this strategy in his first year; he said he was afraid he would not be able to manage the class on his own (without the assistance of the cooperating teacher). During the second year he only used grouping with his more advanced classes.

5. The participants had to adjust to quick and substantial changes in environment, expectations, and curriculum. All five indicated that they worked very hard just to keep up, and said their decisions about teaching strategies were often based on practical concerns.

6. The participants' developing beliefs during the first year of teaching were influenced by a wide variety of individuals within and outside of the school. These relationships developed mostly informally as each sought out people in their environment who could provide assistance. Inside the school, these included a principal, team members, and department colleagues. One teacher decided on his own that he needed a mentor and identified (at the end of the first year) a teacher he admired within his school and asked if she would mentor him during his second year. However, due to schedule changes, he was not actually able to work with this person. Other individuals mentioned as influential were spouses, friends, and the teachers' own children.

7. Conditions such as space, time, materials, equipment, number of preparations and required content coverage were important influences on the teachers' beliefs about the value and efficacy of particular instructional strategies. There were especially wide variations in the experiences of the teachers related to stability and facilities. For example, two teachers obtained first year positions readily and have remained in the same schools since that time. Another obtained only a half-time position in Year 1, and in Year 2 was assigned to teach in two different schools and travel between them during break. This teacher has now taught in 4 buildings during the three years of the study. As mentioned earlier, the fourth and fifth teachers had even more difficulty, as one was unemployed during the first year and the other left his job during the first year. All of these circumstances have impacted instruction as a whole and also the use of literacy strategies.

Conclusion

Educators have begun to recognize that effective preservice and inservice education must be based on an in-depth understanding of the constraints and opportunities teachers actually face; however, we currently have few literacy-related studies which provide the perspective of teachers at the secondary level. Alvermann and Moore (1991) for example, called the whole body of literature related to secondary reading practices and reasons for those practices "embryonic." In this study, teachers who indicated an interest in using literacy-related practices in their

mathematics instruction found their ability to do so substantially influenced from a variety of directions. Positive conditions (those that helped enable teachers to use literacy strategies) included curriculum materials that included the strategies, cooperating teachers who favored the strategies, and administrative policies that allowed individual teacher choices about instruction. Negative conditions (that seemed to hinder the use of literacy strategies) included lack of time, large number of students and/or preparations, large numbers of students with many academic or personal problems, and general instability of the beginning teacher's assignment (e.g. frequent changes in schools, teaching assignments, and so forth). Negative conditions have been quite prevalent in the teaching lives of the beginning teachers studied here, although two of the original five seem to have obtained situations that have now become stable. The study will be continued for at least one more year to provide information on the remaining 4 teachers through at least their third year of teaching.

References

Alvermann, D. & Moore, D. (1991). Secondary school reading. In R. Barr, M. Kamil, P. Mosenthal, & P.D. Pearson (Eds.), Handbook of reading research, Vol. 2 (pp. 951-983). New York: Longman.

Berger, P. and Luckmann, T. (1967). The social construction of reality. Garden City, NY: Doubleday.

Cuban, L. (1986). Persistent instruction: Another look at constancy in the classroom. Phi Delta Kappan, 68(1), 7-11.

Dillon, D., O'Brien, D., Moje, E., & Stewart, R. (1994). Literacy learning in secondary school science classrooms: A cross-case analysis of three qualitative studies. Journal of Research in Science Teaching, 31, 345-362.

Glaser, B. & Strauss, A. (1967). The discovery of grounded theory: Strategies for qualitative research. Chicago: Aldine.

Kagan, D.M. (1992). Professional growth among preservice and beginning teachers. Review of Educational Research, 62, 129-169.

O'Brien, D. G. (1988). Secondary preservice teachers' resistance to content reading instruction: A proposal for a broader rationale. In J.E. Readence & R. S. Baldwin (Eds.), Dialogues in literacy research: Thirty-seventh yearbook of the National Reading Conference (pp. 237-243). Chicago: National Reading Conference.

O'Brien, D, Stewart, R. & Moje, E. (1995). Why content literacy is difficult to infuse into the secondary school: Complexities of curriculum, pedagogy and school culture. Reading Research Quarterly, 30, 442-463.

Merriam, S. (1988). Case study research in education: A qualitative approach. San Francisco, CA: Jossey-Bass.

Pajares, F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. Review of Educational Research, 62, 307-332.

Sampson, M.B. & Linek, W. M. (1994). Change as process: A view of an instructor and her students. In E. G. Sturtevant and W. M. Linek (Eds.) Pathways for literacy: Learners teach and teachers learn. Pittsburg, KS: The College Reading Association.

Sturtevant, E. G. (1995). Beyond the content literacy course: Influences on Beginning Mathematics Teachers' Uses of Literacy in Student Teaching. Paper presented at the National Reading Conference, New Orleans, December, 1995. Currently submitted for publication (available from the author).

Sturtevant, E. G. (In Press). Lifetime influences on the literacy-related instructional beliefs of experienced high school history teachers: Two comparative case studies. Journal of Literacy Research.

Note: For an earlier paper related to this longitudinal study, please contact the author.